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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,705	12/11/2000	Shinji Koyano	Q62174	2917

7590 02/11/2004

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EXAMINER	
GRIER, LAURA A	
ART UNIT	**PAPER NUMBER**
2644	20

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/732,705	KOYANO ET AL.	
	Examiner	Art Unit	
	Laura A Grier	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *15*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The indicated allowability of claims 2-14 and 16-17 are withdrawn in view of the newly discovered reference(s) to Clements, U. S. Patent No. 3014096. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Clements, U. S. Patent No. 3014096.

Regarding claim 1, Clements discloses sound reproducing means (figures 1 and 2) comprising a speaker (11), a microphone (col. 8, lines 28-57) and an excursion gauge (col. 9, lines 20-63), respectively for detecting amplitude of the diaphragm of the speaker; and a feedback means applied back to an amplifier for providing a positive feed of the amplitude into the driving signal of the speaker.

Regarding claim 2, Clements discloses everything claimed as applied above (see claim 1). Clements' (figure 2) gauge indicates velocity detecting means and integrating means (col. 9, lines 20-63).

Regarding claim 3, Clements discloses everything claimed as applied above (see claim 1). Clements' integrating means inherently provides a LPF as evident by the fact that the integration circuit or integrator may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and evidently provides a lower cutoff frequency than the lowest resonance frequency of the speaker as it is the desired purpose of the invention to acquire high-quality low frequency reproduction.

Regarding claim 4, Clements discloses everything claimed as applied above (see claim 3). Clements' disclosure further teaches that operational characteristic based upon the voltage and current (9, lines 72-75 and col. 10, lines 1-19).

Regarding claim 5, Clements discloses sound reproducing means (figures 1 and 2) comprising a speaker (11) an excursion gauge (col. 9, lines 20-63), for detecting amplitude of the diaphragm of the speaker based upon the velocity in respect to the voltage and current applied to the speaker (9, lines 72-75 and col. 10, lines 1-19), which reads on detecting operational characteristics of a diaphragm of a speaker; integrating means which inherently provides a LPF as evident by the fact that the integration circuit may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and a feedback means applied back to an amplifier for providing a positive feed of the amplitude into the driving signal of the speaker and further by Clements' integrating means inherently provides a LPF as evident by the fact that the integration circuit or integrator may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated

performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and evidently provides a lower cutoff frequency than the lowest resonance frequency of the speaker as it is the desired purpose of the invention to acquire high-quality low frequency reproduction.

Regarding claim 6, Clements discloses everything claimed as applied above (see claim 5). Clements' disclosure further teaches that operational characteristic based upon the voltage and current (9, lines 72-75 and col. 10, lines 1-19).

Regarding claim 7, Clements discloses everything claimed as applied above (see claim 5). Clements' disclosure further teaches that operational characteristic comprising velocity (col. 9, line42-46).

Regarding claim 8, Clements discloses sound reproducing means (figures 1 and 2) comprising a speaker (11) an excursion gauge (col. 9, lines 20-63), for detecting amplitude of the diaphragm of the speaker based upon the velocity in respect to the voltage and current applied to the speaker (9, lines 72-75 and col. 10, lines 1-19), which reads on detecting operational characteristics of a diaphragm of a speaker; integrating means which inherently provides a LPF as evident by the fact that the integration circuit may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and a feedback means applied back to an amplifier for providing a positive feed of the amplitude into the driving signal of the speaker.

Regarding claim 9, Clements discloses everything claimed as applied above (see claim 8). Clements' integrating means inherently provides a LPF as evident by the fact that the

integration circuit or integrator may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and evidently provides a lower cutoff frequency than the lowest resonance frequency of the speaker as it is the desired purpose of the invention to acquire high-quality low frequency reproduction.

Regarding claim 10, Clements discloses everything claimed as applied above (see claim 8). Clements' disclosure further teaches that operational characteristic comprising velocity (col. 9, line42-46).

Regarding claim 11, Clements discloses sound reproducing means (figures 1 and 2) comprising a speaker (11) an excursion gauge (col. 9, lines 20-63), for detecting amplitude of the diaphragm of the speaker based upon the velocity, which reads on detecting operational characteristics of a diaphragm of a speaker; integrating means and a feedback means applied back to an amplifier for providing a positive feed of the amplitude into the driving signal of the speaker.

Regarding claim 12, Clements discloses everything claimed as applied above (see claim 11). Clements' integrating means inherently provides a LPF as evident by the fact that the integration circuit or integrator may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and evidently provides a lower cutoff frequency than the lowest resonance frequency of the speaker as it is the desired purpose of the invention to acquire high-quality low frequency reproduction.

Regarding claim 13, Clements discloses everything claimed as applied above (see claim 11). Clements' disclosure further teaches that operational characteristic based upon the voltage and current (9, lines 72-75 and col. 10, lines 1-19).

Regarding claim 14, Clements discloses everything claimed as applied above (see claim 11). Clements' disclosure further teaches that operational characteristic comprising velocity (col. 9, line42-46).

Regarding claim 15, Clements discloses sound reproducing means (figures 1 and 2) comprising a speaker (11) an excursion gauge (col. 9, lines 20-63), for detecting amplitude of the diaphragm of the speaker based upon the velocity in respect to the voltage and current applied to the speaker (9, lines 72-75 and col. 10, lines 1-19), which reads on detecting operational characteristics of a diaphragm of a speaker; integrating means and a feedback means applied back to an amplifier for providing a positive feed of the amplitude into the driving signal of the speaker.

Regarding claim 16, Clements discloses everything claimed as applied above (see claim 15). Clements' integrating means inherently provides a LPF as evident by the fact that the integration circuit or integrator may comprises resistors and capacitor (col. 13, lines 30-34), which are common components of a filter structure and the indicated performance of the integrator is directed to low frequencies (col. 12, lines 35-53), and evidently provides a lower cutoff frequency than the lowest resonance frequency of the speaker as it is the desired purpose of the invention to acquire high-quality low frequency reproduction.

Regarding claim 17, Clements discloses everything claimed as applied above (see claim 15). Clements' disclosure further teaches that operational characteristic comprising velocity (col. 9, line42-46).

Response to Arguments

4. Applicant's arguments, see pages 2-7, filed 12/2/03, with respect to the rejection(s)of claim(s) 1, 11 and 15 under USC 102(b) and USC 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Clements, which discloses the detecting the amplitude of a loudspeaker in respect to the velocity by integrating the detected signal via positive feedback to acquire enhance low frequency reproduction as of the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG
February 8, 2004

KIMBINH CHI HARVEY
PRIMARY EXAMINER